
Developing High School Students' Research Practices and Regenerative Medicine Knowledge through a Summer Intern Program

Grant Award Details

Developing High School Students' Research Practices and Regenerative Medicine Knowledge through a Summer Intern Program

Grant Type: SPARK

Grant Number: EDUC3-08422

Project Objective: The project objective is to manage the SPARK program that provides 8 week stem cell research internships for high school students. The Program Director was in charge of recruiting students from underprivileged communities, place these students in stem cell research labs at leading institutions in California, and train the students in stem cell science and research techniques. The PDs were also responsible for implementing the CIRM social media guidelines which included having students post pictures about their internship experience on Instagram and write a blog. They also had to coordinate a patient engagement activity where students get first hand experience with patients and what they go through. Lastly the PDs had to coordinate their students attendance at the 2016 SPARK conference, making sure that their poster presentations and speeches were prepared.

Investigator:

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| Name: | Katherine Nielsen |
| Institution: | University of California, San Francisco |
| Type: | PI |

Award Value: \$389,400

Status: Active

Grant Application Details

Application Title: Developing High School Students' Research Practices and Regenerative Medicine Knowledge through a Summer Intern Program

Public Abstract:

Through this training program, 50 high school students from backgrounds underrepresented in the sciences will pursue summer research projects in stem cell biology at a major research university. Students will spend the bulk of their summer conducting research under the guidance of a mentor scientist. To prepare them for success in the program, they will begin the summer with a 2-day short course. This short course will help students feel confident entering and navigating the laboratory environment. Students will meet weekly throughout the summer with their peers and program staff to build community and learn to: 1) successfully apply to college and for financial aid (a well-documented barrier that limits the educational achievement of students from backgrounds underrepresented in the sciences), 2) communicate in writing about their research, and 3) give a poster presentation and a scientific talk. Students will also participate in patient engagement activities, including learning about pediatric oncology and supporting a local blood drive. They will do community outreach work such as writing blog entries about their experience as an intern and posting photos on Instagram of their work in the lab.

Longitudinal studies of alumni from this program demonstrate that they pursue higher education and careers in the sciences in numbers that greatly exceed their demographically-matched peers. Thus, we are confident that many of these 50 students will continue working in stem cell research or related fields. Irrespective of their career choices, all CIRM-funded alumni will build their lab skills, learn research practices, and understand the importance of stem cell research and accelerating stem cell therapies to patients with unmet medical needs, thereby becoming "stem cell ambassadors" who can help others in California understand this work and advocate for continued funding.

Statement of Benefit to California:

This proposed project will further the educational and scientific careers of high school students from backgrounds underrepresented in the sciences. It will also help research scientists learn how to mentor students from backgrounds different from their own; thereby equipping these researchers to be more effective mentors and serve California's students. With this two-pronged approach, this work will increase scientists' abilities to educate lay audiences about their research, and will both diversify and build the life science workforce in California. Diversifying the scientific field is of critical importance to the state of California and its citizens for several reasons. First, a more diverse biomedical workforce has been repeatedly cited as a mechanism for addressing disparities in health and healthcare; second, shortages in the life science workforce from technicians to advanced scientists are predicted in California; and, third, the annual wages in STEM fields greatly exceed the national averages in other fields, providing economic stability and the potential for upward mobility for the low-income, minority, and immigrant students who participate in this program. This program will help California citizens become a part of the STEM workforce. We will deepen scientist mentors' abilities and help high school students realize their academic potential – resulting in their matriculation to college, completion of their undergraduate education, and ultimately, enabling them to pursue careers in the sciences.

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